

What is claimed is:

1. A mixing and pouring apparatus, comprising:  
a base;  
a locking arm support carried on the base;  
a locking arm rotatably mounted within the locking arm support; and  
a drive mechanism operatively coupled to the locking arm, the drive mechanism capable of rotating the locking arm.
2. The apparatus of claim 1, and further comprising a motor operatively connected to the drive mechanism, the motor effecting operation of the drive mechanism to rotate the locking arm.
3. The apparatus of claim 1, wherein the locking arm further comprises a plurality of vessel openings and a matching plurality of vacuum ports, each of the vessel openings sized to accommodate a vessel, and each of the locking ports capable of retaining the vessel in the locking arm.
4. The apparatus of claim 3, wherein the locking arm further comprises a plurality of locking pockets, one locking pocket of the plurality of locking pockets surrounding one of the plurality of vessel openings.
5. The apparatus of claim 4, wherein each locking pocket is substantially square.
6. The apparatus of claim 3, wherein each locking port comprises a locking opening and an O-ring surrounding the locking opening, and wherein the locking

opening is connected to a vacuum line for drawing a partial vacuum in the locking opening.

7. The apparatus of claim 6, wherein the vacuum line is situated internal to the locking arm.

8. The apparatus of claim 1, wherein the locking arm support further comprises a drain trough for receiving waste material from a vessel situated in the locking arm when the locking arm is rotated to pour material from a vessel.

9. The apparatus of claim 8, wherein the drain trough includes a drain for draining waste fluid.

10. The apparatus of claim 1, wherein the drive mechanism comprises:  
a motor having a drive shaft, the motor connectable to an external motor control;  
a drive gear operatively coupled to the drive shaft;  
a free gear operatively, fixedly coupled to the rotatable locking arm; and  
a belt seated over the drive gear and the free gear, and wherein the belt is movable to drive the free gear in response to motion of the drive gear.

11. The apparatus of claim 10, wherein each of the drive gear and the free gear has a plurality of gear notches, and wherein the belt has a plurality of belt notches, the belt notches and gear notches matching in size.

12. The apparatus of claim 10, and further comprising a registration mechanism, the registration mechanism comprising:

a registration disk operatively, fixedly coupled to the free gear, the registration disk having a registration slot therein;

an optocoupler having a transmitter and a receiver separated by a gap,  
wherein the registration disk is positioned to extend into the gap; and  
control lines operatively electrically connected to the optocoupler and to the  
motor; and  
wherein the registration slot is aligned in the gap of the optocoupler when the  
registration disk is in a home position wherein the locking arm is in a  
substantially vertical position.

13. The apparatus of claim 12, wherein the motor queries the receiver, and drives the drive shaft to rotate the registration disk to its home position.

14. The apparatus of claim 2, wherein the motor further comprises a processor and a memory, the memory capable of storing a plurality of operating commands for the motor, and the processor capable of executing the stored commands to operate the motor.

15. The apparatus of claim 1, wherein the base includes a plurality of guide pin openings, the apparatus further comprising:

a supplemental cradle having a plurality of cradle vessel openings each sized to accomodate a vessel, the supplemental cradle having a plurality of guide pins extending therefore to engage the guide pins with the guide pin openings to position the supplemental cradle on the base.

16. The apparatus of claim 15, wherein the supplemental cradle further comprises a plurality of locking pockets, each of the locking pockets surrounding one of the plurality of vessel openeings.

17. The apparatus of claim 16, wherein each of the locking pockets is substantially square.

18. A mixing and pouring apparatus, comprising:  
a base;  
a locking arm support carried on the base;  
a locking arm rotatably mounted within the locking arm support; and  
a drive mechanism operatively coupled to the locking arm, the drive mechanism capable of rotating the locking arm and comprising:  
a motor having a drive shaft, the motor connectable to an external motor control;  
a drive gear operatively coupled to the drive shaft;  
a free gear operatively, fixedly coupled to the rotatable locking arm; and  
a belt seated over the drive gear and the free gear, and wherein the belt is movable to drive the free gear in response to motion of the drive gear.

19. The apparatus of claim 18, and further comprising:  
a registration mechanism, the registration mechanism comprising:  
a registration disk operatively, fixedly coupled to the free gear, the registration disk having a registration slot therein;  
an optocoupler having a transmitter and a receiver separated by a gap, wherein the registration disk is positioned to extend into the gap; and  
control lines operatively electrically connected to the optocoupler and to the motor; and

wherein the registration slot is aligned in the gap of the optocoupler when the registration disk is in a home position wherein the locking arm is in a substantially vertical position.

20. A mixing and pouring apparatus, comprising:  
a base;  
a locking arm support carried on the base;

a locking arm rotatably mounted within the locking arm support; and  
a drive mechanism operatively coupled to the locking arm, the drive mechanism  
capable of rotating the locking arm

drive mechanism comprises:

a motor having a drive shaft, the motor connectable to an external motor  
control;

a drive gear operatively coupled to the drive shaft;

a free gear operatively, fixedly coupled to the rotatable locking arm; and  
a belt seated over the drive gear and the free gear, and wherein the belt is movable to  
drive the free gear in response to motion of the drive gear;

a registration mechanism, the registration mechanism comprising:

a registration disk operatively, fixedly coupled to the free gear, the  
registration disk having a registration slot therein;

an optocoupler having a transmitter and a receiver separated by a gap,

wherein the registration disk is positioned to extend into the gap; and  
control lines operatively electrically connected to the optocoupler and to the  
motor; and

wherein the registration slot is aligned in the gap of the optocoupler when the  
registration disk is in a home position wherein the locking arm is in a substantially  
vertical position.